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The Differential Impact of Job Isostrain and Home-Work Interference on Indicators of Physical and Mental Health in Women and Men

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Objectives: To evaluate (1) whether the physical and mental health of male workers differs from that of female workers, and, if so, whether (2) this is affected by the interplay between work and nonwork burden. **Methods:** We pooled two large Belgian databases (BELSTRESS III, SOMSTRESS) comprising data on 4810 (2847 women). Gender-specific logistic regressions were performed using a four-level variable as predictor. This combined two predictors: isolated job strain (isostrain) and home-work interference (HWI). **Results:** Male workers are at greater risk of chronic fatigue when they experience high isostrain but not high HWI. Although accumulated high isostrain and high HWI affect women mainly via chronic fatigue, the same pattern has a greater impact on men's perceived health. There was no difference for the other patterns. **Conclusions:** To improve workers' well-being, organizations should develop work and nonwork balance policies specific for men and women.

Differences between men's and women's health are very well documented in literature. More particularly, women's greater physical and mental health is a rather consistent finding, which has been extensively approached in organizational psychology because of its implications in terms of lesser productivity and presence at work imputed to these workers. Despite the fact that results are not always univocal, scholars agree about the role played by several mediating variables such as age, ethnicity, education, working conditions, or domestic situation for explaining gender dissimilarities.[1] Within this line of research, the first purpose of the present article is to confirm, within a sample of Belgian workers, whether or not gender is associated to mental and physical health. The second and most central purpose is to verify the presence/absence of dissimilarity in men's and women's mental and physical health as a consequence of the interplay of work and nonwork strain. This is an essential issue to tackle with because if work and nonwork stressors are two significant sources of mental and physical health, their interplay could impact in a very different way men's and women's general distress because of their experience of work and private life domains.

To investigate these two questions we make reference to sociological theory of stress.[2] According to this, stressors such as strain in work and private life lead to several outcomes, mainly behaviors and symptoms of physical and mental health. As long as it is important to consider multiple outcome measures, for the present study, anxiety and chronic fatigue were chosen to assess the mental health. On the contrary, the subjective health was chosen for measuring the physical health as long as it was widely proved that this is a good indicator of the actual quality of the physical health of the individuals.

In recent years, the changing labor market configuration characterized by widespread competition, instability of employment, and increasing demand for individual flexibility tend to induce new forms of psychological pressures on the workforce.[3,4] It is suggested that men and women are differently affected by these variations mostly because of the gender roles they still continue to endorse both inside and outside work.[5] In the field of organizational health psychology, significant attention has been focused on the construct of work stress.[6] So far, results from several studies have proven the associations between job stress and mental and physical health indicators, such as depression and anxiety,[7,8] chronic fatigue,[9,10] and self reported health.[9,11] In addition, the relations between job stress and poor physical and mental health have been found to be stable across regions[12,13] and across types of occupations.[14–16] As regards gender disparities, women appear to be more affected by work stress than men.[17,19] Nevertheless, this discrepancy appears to depend mostly on the fact that men's and women's working lives are not equivalent. As long as women continue to occupy lower status jobs which imply less income, less prestige, less control on their working activities, and higher work overload which, in turn, causes them to be more vulnerable to work stress.[20,21]

Moreover, as long as work and private life are the two most important life areas for men and women, the question and consequences of the roles balance should be taken into account when analyzing workers' psychological well-being. Indeed, in the present study, we will also consider the stress caused by private life elements[22,23] as predictors of workers' poor mental and physical health.

To measure the stress created by the occupational context, we utilized the Job Demand-Control-Support model proposed by Karasek and colleagues.[24] This leading perspective defines work [AQ3] stress as a multifactorial construct composed of three major dimensions: "psychological job demand" referring to an individual's workload includes time pressure and role conflict issues, "job control" (also called decision latitude) indicating the control that individuals can exercise over their work, and finally "social support at work," meaning the interpersonal support coming from superiors and colleagues. Despite some criticisms,[25] the Job Demand-Control-Support model has proven to be a pertinent tool in evaluating crucial dimensions impacting workers' well-being. For instance, Amick et al[26] have shown that work contexts characterized by high demand, low control, and low social support (ie, isolated strain or "isostrain" context) are highly predictive for women to report pain, weak vitality, and poor mental health and, in a similar study, Vermeulen and Mustard[20] registered for both sexes a strong association between "isostrain" job context and poor psychological health.

In addition to work stress, for the present study, we turn our interest toward another noteworthy factor that could participate in work burden, namely, "work-family conflict" (WFC). For the last 20 years, scholars have focused attention on the construct of WFC, which refers to the strain produced by the reciprocal influence of work and family domains, or, in other words, to the strain occurring when the positive and negative concerns stemming from one

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sphere influence the other.[27] Although researchers working in this field started by treating WFC as a unidimensional construct, it has been rapidly proposed to differentiate between the two directions of WFC, namely *work-to-home interference* (WHI) and *home-to-work interference* (HWI) to better understand the antecedents and consequences of interrole conflict.[28]

For the present study, we decided to focus exclusively on the HWI dimension. The first reason is that our interest lies in the possibly additive impact of work- and nonwork-related dimensions on workers' psychological functioning. Hence, to focus on this particular aspect, allows us to neatly observe the cumulated effect of work and private-life stressors on workers' mental and physical health. On the contrary, considering the WHI, that is to analyze the spillover of work stressors on individuals in their private life, would not fit our goal and would rather produce a too complex set of results that for a question of room and readability we will not present here. As a final point, there is an evident lack of theoretical and empirical insight concerning HWI dimension and its consequences on individuals' poor mental and physical health. As a matter of fact, if the effects induced on physical and mental health by WHI have been widely investigated,[29–31] those provoked by HWI have received less systematic attention. The rare studies explicitly tackling this issue found HWI to be related to general mental health,[32] general distress,[33] and self-assessed health.[34] In addition, the linkage between HWI and general stress in all life aspects have been attested.[28,35] By contrast, findings are less clear-cut concerning the relationship between HWI and work stress. Indeed, while Frone et al[36] and Hammer et al[37] found HWI to predict work distress, following Klitzman et al,[27] the same relationship fails to exist. Finally, although one study[38] looked at the relationship between HWI and work qualities such as autonomy, routine, and noxiousness on anxiety, to our knowledge, there have been no investigations that have sought to analyze the combined effect of job stress and HWI on workers' mental and physical health.

To sum up, this body of evidence allows a theoretical link between job stress, HWI, and mental and physical health. Hence, the first goal of the present study is to answer the question: are gender, work stress, and HWI associated with anxiety, chronic fatigue, and subjective health? On the basis of previous literature, we hypothesize a strong link between the three predictors and the outcomes. [AQ4] Moreover, as long as, to our knowledge, no study until present explicitly addressed the question of whether men's and women's mental and physical health is similarly affected by the interplay of work stress and HWI, this will be our second research question. Because of the lack of evidences in this field, we will address it by means of an exploratory approach.

To answer these two questions, we present cross-sectional findings from two merged data sets collected in Belgium between 1999 and 2003, comprising male and female employees in nine companies. In the analyses, we examine the association between job stress and HWI predictors, and anxiety, chronic fatigue, and subjective health evaluation as outcome variables, statistically controlling for several sociobiographical and job-, private life–, and health-related variables.

METHOD

Participants

Cross-sectional data used in the present study result from the merger of two large Belgian longitudinal studies, BELSTRESS III and SOMSTRESS, comprising information on 4810 workers employed in nine organizations. BELSTRESS III[1] is an epidemiological study conducted in 2004. Its main goal was to identify the determinants of sickness absence within a gender perspective. A total of 2983 French- and Dutch-speaking participants (1611 women) aged 30 to 55 years and employed in seven public and private companies (ie two public administrations, three firms from services sector, one manufacturing company) took part in the BELSTRESS III study (response rate: 30.4%). SOMSTRESS[2] study aimed at investigating the relationship between stress at work and somatization problems taking into account the broader socioeconomical context. It was conducted between 1999 and 2002 and globally consisted of 3796 workers aged 18 to 66 years (response rate: 40%). In the present study, the baseline data of only 1827 participants were used, these being all those who had been asked to answer to the HWI scale. This subsample of the SOMSTRESS study is composed of 1236 women and 591 men employed either in a large university hospital or in an insurance company.

Procedure

In both SOMSTRESS and BELSTRESS III study, data were collected by means of fully-standardized self-administrated questionnaires containing the classical sociodemographic information, such as age and education level, in addition to several standardized measures on work-related issues, private life concerns, and mental and physical health. Both studies received the approval of the ethic committees of the concerned universities. Details concerning the procedures of the two original studies have been published elsewhere: for the SOMSTRESS study, see Godin et al.[39] and for the BELSTRESS III study, see Clays et al.[40]

Measures

Predictors

Isolated job strain (Isostrain). The Job Content Questionnaire based onthe Demand-Control-Support model[41] of Karasek et al has been used to assess isolated job strain. This questionnaire is composed of three dimensions, namely "job control," (nine items, Cronbach $\alpha = 0.78$) "psychological job demand," (5 items, Cronbach $\alpha = 0.59$) and "social support at work" (8 items, Cronbach $\alpha = 0.86$). Following the classical procedure, "job control," "psychological job demand," and "social support at work" scales have been dichotomized on the basis of the median split procedure, the cutoff points being fixed on the basis of the reference Belgian BELSTRESS I study population.[42] Participants displaying a high isostrain (ie, low job control, high job demand, and low social support at work) have been coded as 1, while the others as 0 (no isostrain job).

Home-work interference. Strain-based HWI has been assessed by means of a standardized instrument developed by Kelloway et al.[28] This scale is composed of six items (Cronbach $\alpha = 0.86$) coupled with a 5-points Likert scale for answers. After summing the six answers of each participant, we created a dichotomous dummy variable using the 75th percentile (ie, 15) as cutoff point.

Outcome variables

Anxiety. Anxiety has been measured by means of the anxiety subscale (10 items; Cronbach $\alpha = 0.89$) of the SCL 90 (Symptom Check List).[43] The cutoff point for separating respondents in two categories was the 75th percentile. Individuals scoring 16 or less have been classified as "not anxious" (coded as 0) while those above the cutoff point as "anxious" (coded as 1).

Chronic fatigue. To assess the degree of chronic fatigue, we used the scale proposed by Vercoulen[44] (four items; Cronbach $\alpha = 0.85$). Two categories of respondents have been created: one for those scoring below the cutoff point (75th percentile = 20) coded as 0 ("not chronically fatigued") and 1 for those scoring above the cutoff point coded as 1 ("highly chronically fatigued").

Subjective health evaluation. The sole question "How do you assess your general health?" (5-point Likert scale) was used to evaluate participants' subjective health perception. Respondents scoring 1 or 2 (respectively, labeled *good* and *very good*) were classified as perceiving good personal health (coded as 0) and those scoring from

3 to 5 (ie, *average*, *poor*, and *very poor*) as perceiving bad personal health (coded as 1).

Adjustment variables

To eliminate potential confounders, data analyzed for the present study were progressively adjusted for four blocks of variables: (1) the first block comprises the *sociobiographical variables* age (categorized as "up to 39," "from 40 to 49," and "over 50 coded"), and educational level (categorized as "elementary and junior high school," "high school and graduates," and "college and graduate school"); (2) the second block embraces two *work-related variables*: occupational grade (originally assessed according to the International Standard Classification of Occupations code,[45] and, as an indicator of work market instability awareness, perceived influence of the world market competition (measured by means of a 3-item scale proposed by Karasek et al,[41] Cronbach $\alpha = 0.87$). Indeed, this latter variable has been proven to be associated with job strain and with several health indicators;[4,9]; (3) the third block includes *private life–related variables* such as living situation (participants were divided in 2 categories according to whether they lived with partner or not), and social support outside work (4 items scale adapted from,[46] Cronbach $\alpha = 0.86$); (4) finally, the fourth block consists of two *health-related variables* traditionally linked to the three outcomes considered in the present study: body-mass index (BMI) calculated on the basis of self-reported height and weight and alcohol dependence (for assessing alcohol consumption addiction, we used the CAGE alcohol screening questionnaire[47]).

Data Analysis

The statistical analyses were performed using STATA/SE 10.0.[4] As a result of the nonnormal distribution of the main variables, we opted for performing multiple logistic regressions (logit command in STATA). To evaluate the association between the predictors and the mental and physical health, in the first logistic regression, we included the variables sex, job-stress and HWI as actual predictors for the outcome variables. Because of the difficulty of correctly estimating the applicability of the results to the overall data and interpret the direction of interactions in nonlinear models (for a detailed discussion of this issue, see: 47), to evaluate whether men's and women's mental and physical health is similarly affected by the interplay of work stress and HWI, we performed several logistic regressions separately for males and females, setting as predictor a four-level dummy variable resulting from the combination of the two dichotomized predictors. As a result, participants were classified into four classes according to whether they displayed "low isostrain and low HWI" (reference category), "high isostrain and low HWI," "low isostrain and high HWI," and "high isostrain and high HWI."

Only those participants presenting no missing answers were included in the multiple logistic regressions. In all the analyses performed, $P < 0.05$ was considered as attesting statistical significance.

RESULTS

Characteristics of the Population

A detailed description of the studied population is presented in Table 1. [T1]

After merging the two databases, the population is composed of men and women aged 28 to 66 years. Individuals between 40 and 49 are the most represented in both sexes (47% of women and 45% of men), followed by younger individuals (36% of the population) and older ones (18%). In general, the distribution of individuals across the occupational grade shows a predominant presence of professionals in the intermediate functions. In line with the general trend of the labor market, we found a larger presence of men in the higher levels of the hierarchy, while women are in greater number in less prestigious categories. Moreover, the study group had a predominantly high level of instruction (ie almost 53% of the individuals attended college or a graduate school) and this for both men and women. Finally, the vast majority of the population lives with a partner and only 20% is single.

Description of the Predictors and Adjustment Variables

Concerning the predictors and adjustment variables comprised in the present study, women display significantly higher isostrain ($\chi^2 = 20.63$, $df = 1$, $P < 0.001$) and HWI ($\chi^2 = 42.44$, $df = 1$, $P < 0.001$) than men. Moreover, compared to men, women's perception of the negative impact of work and market competition is significantly greater ($\chi^2 = 6.80$, $df = 1$, $P < 0.01$). On the contrary, men are significantly overweighed compared to women ($\chi^2 = 318.37$, $df = 3$, $P < 0.001$) and they are more likely to be at risk of alcohol dependence than women ($\chi^2 = 66.76$, $df = 1$, $P < 0.001$). No differences between the two sexes were found concerning social support outside work ($\chi^2 = 0.06$, $df = 1$, $P =$ ns).

Association of Gender, Work Stress, and Private Life With Indicators of Psychological Well-being

The logistic regressions performed to evaluate whether or not gender, isostrain, and HWI are associated with the well-being indicators show that being a women is a good predictor for anxiety and chronic fatigue but not for perceiving own personal health as poor. Experiencing either a high isostrain or high HWI is robustly associated with anxiety, chronic fatigue, and poor health self-evaluation (Table 2). [T2]

Interplay of Work Stress, and Private Life on Psychological Well-being in Men and Women

To evaluate whether or not men's and women's anxiety, chronic fatigue, and subjective health are similarly affected by the interplay of work stress and HWI, we conducted three series of multiple logistic regressions performed separately for men and women. For all of these, the predictive variable was a four-level variable resulting from the combination of isostrain and HWI (ie, "low isostrain and low HWI" vs "high isostrain and low HWI" vs "low isostrain and high HWI" vs "high isostrain and high HWI").

Results are shown in Figs. 1, 2, and 3, respectively. For reasons of space and clarity, we will mainly focus on the outcome resulting from the fully adjusted models, as well as on the relative influence of several blocks of adjusting variables. [F1,2,3]

Women displaying "high isostrain/high HWI" have a rather large odds ratio (OR) for anxiety (Fig. 1). The association weakens for those presenting "high isostrain/low HWI" and decreases further for women in a "low isostrain/high HWI" position. For men displaying "high isostrain/high HWI," the OR is less than that of women in the same category, and it gradually diminishes for men in "low isostrain/high HWI" and "high isostrain/low HWI" groups. Nevertheless, the men in these two latter categories appear to be slightly more at risk of anxiety than their female counterparts.

With reference to chronic fatigue (Fig. 2), the same trend as above is found for women albeit ORs are to some extent smaller than those found for anxiety. On the contrary, for men the strongest association is found in individuals displaying "high isostrain/low HWI," while for those presenting "low isostrain/high HWI" and "high isostrain/high HWI" the ORs are smaller.

Women' self-rated poor health presents an almost linear trend in terms of risks (Fig. 3). Specifically, the weakest association is found for those displaying "low isostrain/high HWI," followed by those presenting "high isostrain/low HWI" and finally by those classified as "high isostrain/high HWI." For men classified as "high isostrain/high HWI," the risk of reporting poor general health is almost double compared to the female participants in the same category and

TABLE 1. Description of the Studied Population

	Men, *n*(%)	Women, *n*(%)	$P(\chi^2)$	Total, *N* (%)
Original database			<0.001	
Somstress	591 (30.11)	1236 (43.41)		1827 (37.98)
Belstress III	1372 (69.89)	1611 (56.59)		2983 (62.02)
Total				4810
Age			<0.001	
≤39	606 (31.81)	992 (39.19)		1598 (36.02)
40–49	902 (47.35)	1138 (44.96)		2040 (45.99)
≥50	397 (20.84)	401 (15.84)		798 (17.99)
Total				4436
				Missing = 374 (7.78)
Occupational grade			<0.001	
Higher professions	741 (65.65)	567 (43.35)		1308 (27.39)
Intermediate	793 (29.44)	1901 (70.56)		2694 (56.42)
Low or not qualified	417 (53.95)	356 (46.05)		773 (16.19)
Total				4775
				Missing = 35 (0.73)
Education level			<0.001	
Elementary and junior High (low)	402 (20.65)	350 (12.37)		752 (15.74)
High school and some graduate (medium)	608 (31.23)	901 (31.84)		1509 (31.59)
College and graduate school (high)	937 (48.13)	1579 (55.8)		2516 (52.67)
Total				4777
				Missing = 33 (0.69)
Living situation			<0.001	
Don't live with the partner	318 (16.27)	630 (22.21)		948 (19.79)
Live with the partner	1636 (83.73)	2207 (77.79)		3843 (80.21)
Total				4791
				Missing = 19 (0.40)

BELSTRESS III resulted from the collaboration of a research team from the Free University of Bruxelles (ULB) and one from the Ghent University (UGent).
SOMSTRESS was conducted by two research-teams from the Free University of Brussels (ULB) and the Catholic University of Leuven (KUL).
StataCorp. 2007. Stata Statistical Software: Release 10. College Station, TX: StataCorp LP. **[AQ7]**

TABLE 2. Odds Ratios and Confidence Interval (95%) of Psychological Distress Indicators by Sex, IsoStrain, and HWI (Home-Work Interference)

	Anxiety (*N* = 3897) OR (95% CI)		Chronic Fatigue (*N* = 3886) OR (95% CI)		Self rated poor health (*N* = 3911) OR (95% CI)	
	Crude	M1	Crude	M1	Crude	M1
Sex[a]	1.22∗	1.14∗	1.42∗	1.36∗	1.07[ns]	1.02 [ns]
	(1.13–1.31)	(1.05–1.24)	(1.31–1.54)	(1.25–1.47)	(.99–1.15)	(.95–1.10)
Isostrain[b]	3.06∗	2.92∗	2.84∗	2.64∗	2.40∗	2.31∗
	(2.45–3.80)	(2.33–3.66)	(2.28–3.55)	(2.11–3.32)	(1.93–2.98)	(1.85–2.88)
HWI[c]	2.91∗	2.78∗	2.32∗	2.12∗	2.05∗	1.99∗
	(2.47–3.43)	(2.35–3.29)	(1.97–2.75)	(1.79–2.52)	(1.74–2.41)	(1.69–2.35)

[a]reference category: man
[b]reference category: low isostrain
[c]reference category: low HWI
∗ = <0.01
M1, logistic equation comprising sex, isostrain and home-work interference as predictors; ns, not significant.

it is generally greater than that in men in "high isostrain/low HWI" and "low isostrain/high HWI" conditions.

Focusing on the participants classified in "high isostrain/high HWI" group, which represent our main interest, it appears that women and man present similar risks of being affected by anxiety. The same cannot be said about chronic fatigue and subjective health evaluation. More precisely, from the results, it appears clearly that women are more at risk of suffering from chronic fatigue, while men are twice as likely to perceive their general health as poor.

Finally, and especially concerning the "high isostrain/high HWI" condition, it emerges that the strongest moderating role is played by private life–related variables. Indeed, when data are

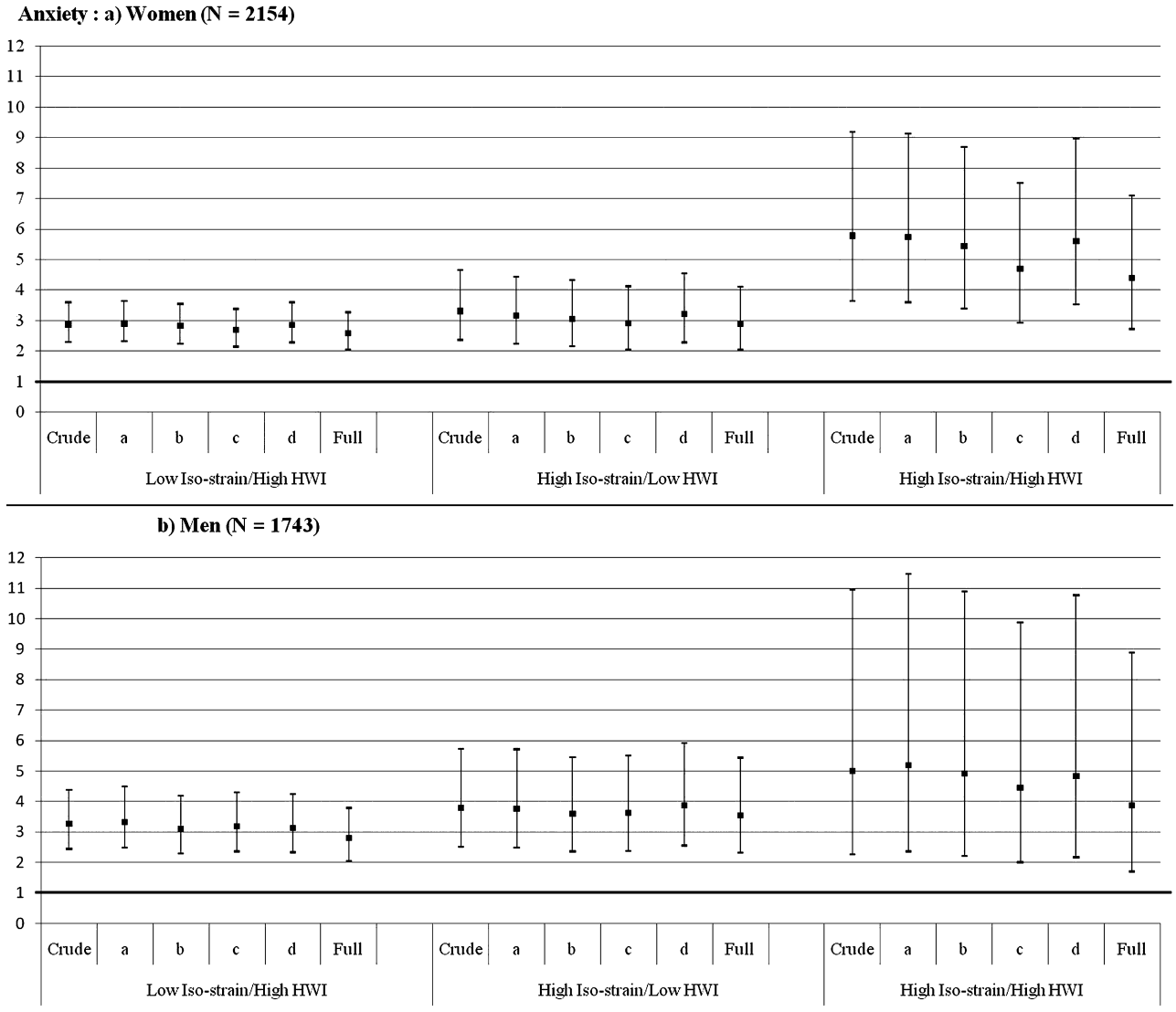

FIGURE 1. Sex-specific odds ratios and confidence interval (95%) of Anxiety by Isostrain, and HWI interplay (reference category: low isostrain/low HWI). Crude. = crude data, a. = data adjusted for: database, age, educational level, b. = data adjusted for: a + occupational grade, impact of the world market competition, c. = data adjusted for: a + living situation, social support outside work, d = data adjusted for: a + body-mass index, alcohol dependence, Full = data fully adjusted.

adjusted for the living situation in terms of partner and the social support outside work, ORs clearly weaken for all the outcome variables, while adjusting for the other blocks (namely, work and health related variables) keeps the ORs at the same level as those obtained by analyzing the raw data.

DISCUSSION

The aim of the present contribution is twofold: first, to confirm, within a sample of Belgian workers, whether or not gender is associated to physical and mental health, measured via anxiety, chronic fatigue, and subjective health and second, to verify the presence/absence of dissimilarity in men's and women's physical and mental health as a consequence of the interplay of work and nonwork strain.

Our results confirm the association between anxiety, chronic fatigue, subjective health, and job stress and add scientific evidence concerning the linkage between HWI and physical and mental health. To our knowledge, in the past, only one other study tackled a similar issue of the linkage between HWI and distress[33]: more precisely, Noor showed that the more the family interfere with work, the more individuals experience anxiety and depression, this being true also after adjusting for work- and family-role salience. Moreover, in line with other findings,[49] the present outcomes show that, although some gender differences in measures of physical and mental health are found, these are fairly small. More precisely, whereas, on the one hand, women are at 43% more risk of suffering from chronic fatigue than men, on the other hand, their risk of experiencing anxiety is significantly lower (19%) and no difference is found concerning the perception of their health as poor.

The fact that our results are drawn from a nonrepresentative sample of the Belgian workforce should certainly be taken into account. Hence, there is a need for additional analyses built on different populations and especially developed to assess whether or not the mental and physical health of workers of the two sexes are dissimilar. Indeed, looking at our results, when work and private-life components are estimated, women's situation in terms of poor mental and physical health is not clear-cut. When individuals in the present

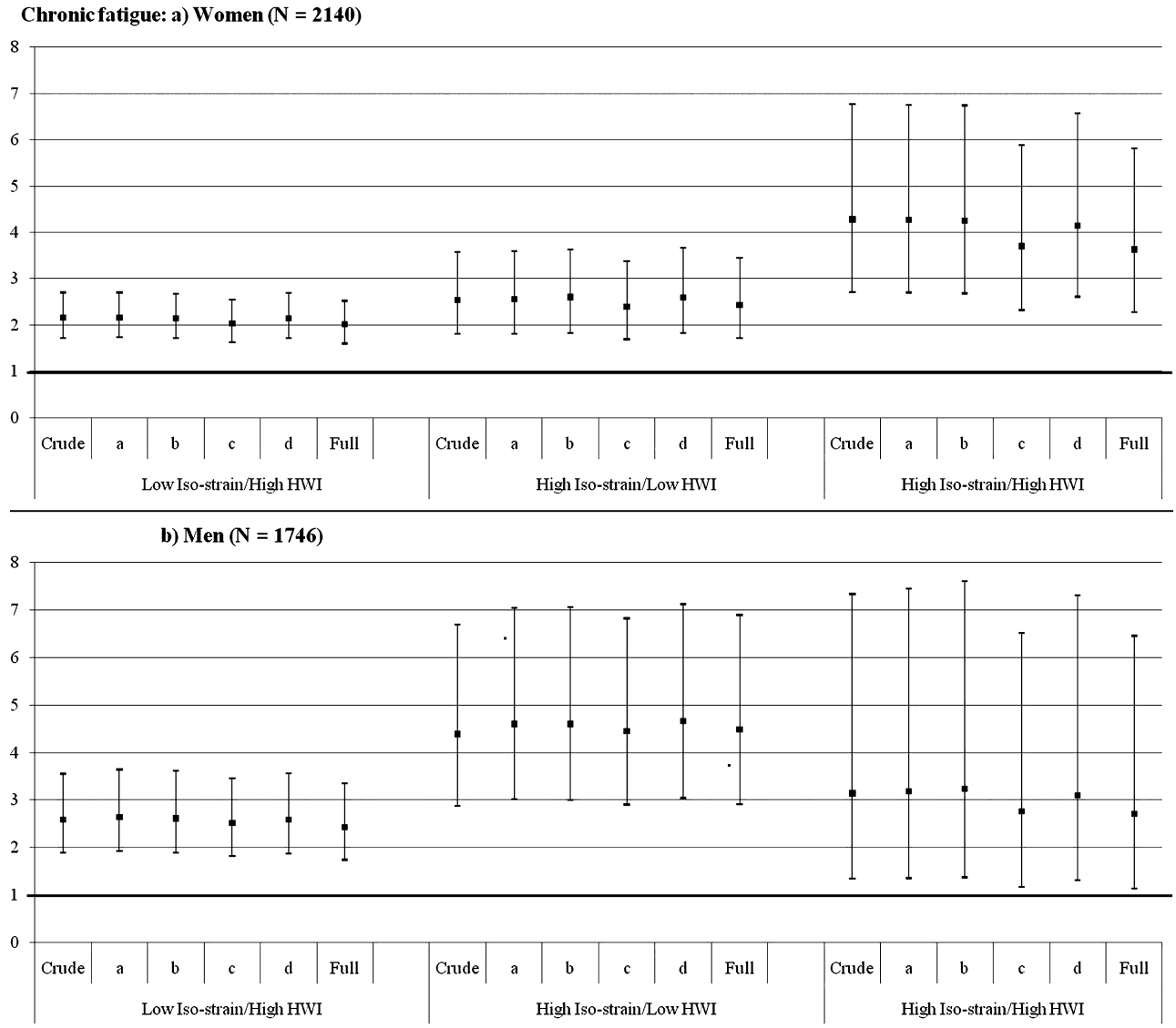

FIGURE 2. Sex-specific odds ratios and confidence interval (95%) of chronic fatigue by Isostrain, and HWI interplay (reference category: low isostrain/low HWI). Crude. = crude data, a. = data adjusted for: database, age, educational level, b. = data adjusted for: a + occupational grade, impact of the world market competition, c. = data adjusted for: a + living situation, social support outside work, d = data adjusted for: a + body-mass index, alcohol dependence, Full = data fully adjusted.

sample experience HWI, but not isostrain, there is no significant difference between males' and females' mental and physical health. On the contrary, when isostrain job context occurs, but not HWI, men appear to be slightly more affected than women, especially, in what concerns chronic fatigue. Finally, looking at the predictive effect of the interplay of isostrain and HWI on mental and physical health, we found men and women to be influenced to some extent differently. More precisely, while, as compared to men, the accumulation of high isostrain and high HWI affects women mainly on chronic fatigue, the same buildup has a stronger impact on men's perceived health than on women's.

These results could be most likely explained, if we refer to the distinction proposed by Kelloway et al[28] between time-based and strain-based HWI. In this sense, we could expect that the combination of isostrain and HWI mainly impact chronic fatigue in women because, in addition to their job, they still undertake a number of domestic and caring tasks and therefore primarily experience a time-based tension having actual exhaustion as a consequence. On the contrary, for men, the working environment constantly calling for better performances and regular advancements, together with the lack of familiarity with the domestic responsibilities traditionally considered as feminine,[50] can induce a higher strain-based pressure resulting in a general poorer perceived health. Unfortunately, the analyzed questionnaires comprised only the strain-based scale so that it is impossible for us to check for this potential explanation and, as a consequence, this limit should be taken in account in future research.

Other further limitations of the present study should be made explicit. First of all, the analysis of cross-sectional data does not permit to infer any causal relationships from our results. Hence, the issue whether work and private-life elements act jointly on physical and psychological well-being or, on the contrary, a poor mental and physical health induces job stress and HWI remains unclear. Although longitudinal data collection is recommended to clarify causality directions, we consider nevertheless that the

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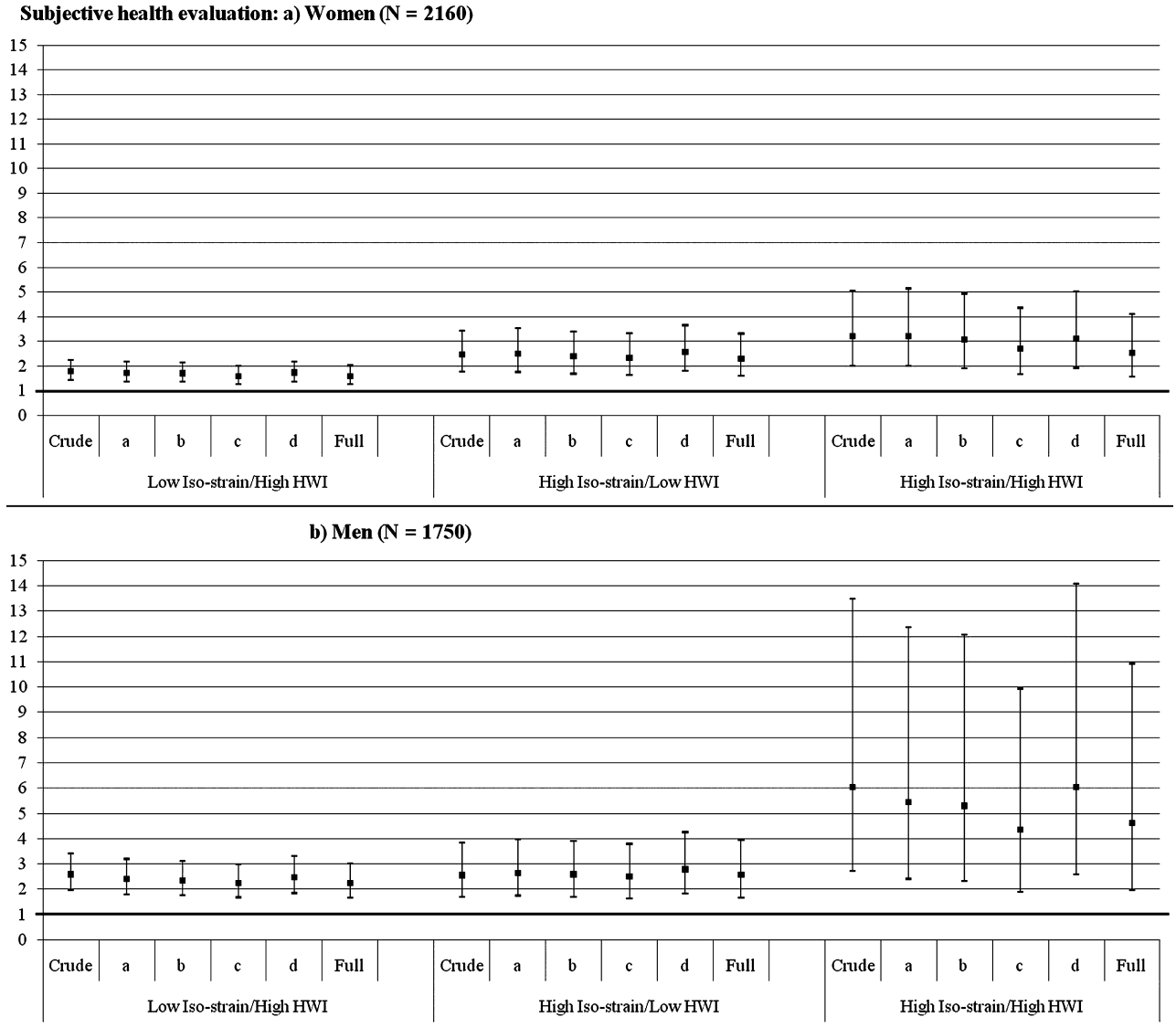

FIGURE 3. Sex specific odds ratios and confidence interval (95%) of subjective health evaluation by Isostrain, and HWI interplay (reference category: low isostrain/low HWI). Crude. = crude data, a. = data adjusted for: database, age, educational level, b. = data adjusted for: a + occupational grade, impact of the world market competition, c. = data adjusted for: a + living situation, social support outside work, d = data adjusted for: a + body-mass index, alcohol dependence, Full = data fully adjusted.

present contribution adds an original insight in the understanding of the elements harming men's and women's working lives. The rather low participation rate is also a limitation because of the potential selection bias, which could affect our results. This invites us to be cautious in generalizing our results. Moreover, although our data allow analysis of the disparity in the perception of job stress and HWI by men and women, analyses such as logistic regression do not permit to seize the nature, intensity, and quality of these factors. Yet, because of the overall dissimilar working roles taken by men and women, their cognitive and emotional experience of job strain could be sensibly different. In addition, if we take a feminist perspective, it is also plausible to assume that, because of the pervasive gender norms still framing individuals' daily activities, men and women develop different perceptual and behavioral experience of the *home-to-work experience*.[51] For these reasons, we recommend conducting future research to analyze further sociological, psychological qualitative variables, which could help to clarify this ambiguous issue. Finally, more comprehensive exploration is needed to explain gender differences as concerns health in general and psychological and mental health in particular. For instance, future research could take into account additional explaining paths such as phases of life,[52] life career patterns,[53] or organizational culture,[54] which have already been proven to be linked to health, work motivations, and stress.

Turning to the practical implications of the present study, we suggest that, in future, issues such as work strain and HWI should be taken into account when planning intervention aimed at reducing workers' mental and physical health in organizations. Indeed, the fact that, for both men and women, private-life related variable appears to be the strongest moderators of the joint effect of isostrain and HWI on psychological well-being should encourage organizations to develop specific policies aiming at reducing the home-to-work spillover. In conclusion, given their implications in terms of threatened productivity, risks of accidents, or sick leave, these results suggest that further

investigations clarify the antecedents and consequences of the articulation between working and private-life components, which, as we showed, appears to impact male and female workers' health.

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